

What is claimed is:

1. A process for obtaining deoxyribonucleic acid(DNA) from fish spermatogonium, which comprises:

i) disrupting a fish spermatogonium to produce a milky-white colloid containing DNA;

ii) adding an alkaline solution of pH 8 to pH 12 that contains more than 1 mol of salts to said milky-white colloid to separate DNA from protamines;

iii) adding ethanol solution to the mixture obtained in step ii) to precipitate DNA.

2. The process according to claim 1, wherein said fish spermatogonium is selected from the group consisting of the spermatogonium of squid and the spermatogonium of pollack.

3. The process according to claim 1, further comprising effectuating acylation reaction of the mixture obtained in step ii).

4. The process according to claim 3, wherein said acylation reaction is performed by using anhydride compounds.

5. The process according to claim 4, wherein said anhydride compound is acetic anhydride.

6. The process according to claim 1, wherein said salt contained in the alkaline solution is monovalent salt.

7. The process according to claim 6, wherein said salt is selected from the group consisting of sodium nitrate, sodium carbonate and sodium phosphate.

8. The process according to claim 1, wherein said spermatogonium is disrupted by rotating-knife type crusher or sonicator.

9. The process according to claim 1, further comprising a step for lysis of RNA.

10. The process according to claim 9, wherein said step for lysis of RNA is performed by the alkali or RNase.

11. A process for obtaining deoxyribonucleic acid(DNA) from fish spermatogonium, which comprises:

i) disrupting a fish spermatogonium in an alkaline solution of pH 8 to pH 12 that contains more than 1 mol of salts;

ii) adding ethanol solution to the mixture obtained in step i) to precipitate DNA.

12. The process according to claim 11, further comprising effectuating acylation reaction of the resulting mixture obtained in step i).

13. The process according to claim 12, wherein said acylation reaction is performed by using anhydride compounds.

14. The process according to claim 13, wherein said anhydride compound is acetic anhydride.

15. A liquid manure comprising the residual by-product solution after separation of DNA from the solution obtained by disrupting fish spermatogonium and then treating by alkaline solution of pH 8 to pH 12.